

REMARKS

Claims 1-18 are pending in the application. Applicants note that the Office Action indicates that claims 2, 3, 5, 6, 8, 9, 11, 12, 14, 15, 17, and 18 contain allowable subject matter. Applicants also note that claims 1, 4, 7, 10, 13, and 16 are rejected. Applicants have carefully considered the rejections and provide the following comments.

Claim Rejections – 35 U.S.C. § 102

The Office Action set forth that claims 1, 4, 10, and 13 are anticipated by Ohsaka (US 6,205,010).

Applicants believe that these claims are not anticipated because Ohsaka fails to inherently or explicitly disclose each and every feature set forth in the rejected claims. In contrast to the claimed invention, Ohsaka relies on temperature measurement to avoid an overload of a circuit. Ohsaka fails to disclose a structure or method for monitoring conduction time and comparing conduction times. This can be seen, for example, from the disclosure in col. 5, lines 8-14 of Ohsaka's specification wherein the "surge detector (130)" reference in the Office Action is described as follows:

"The control means 130 inputting the temperature information compares the inputted temperature information with the predetermined interrupting temperature. When the control means 130 judges that the temperature information is higher than the predetermined interrupting temperature, it controls the switch 140 and cuts off an input signal to the MOSFET 110."

Reference is also made to the additional discussion concerning the operation of the temperature detecting means 120 and temperature information based control means 130 contained in col. 6, lines 36-40, the similar discussion in the paragraph bridging cols. 7 and 8, and the discussion in col. 22, lines 9-17 again regarding a temperature information based control means (130, 130a).

In the Office Action, reference is made to Figure 23 in support of the raised rejection. Applicants note, however, that this Figure 23 is directed at showing different behaviors for various types of loads. For example, Figure 23(a) shows the behavior of a car lamp while Figure 23(c) shows the behavior of a motor. Applicants respectfully submit that Figure 23 and the corresponding disclosure set forth in Ohsaka fail to teach the structure or method recited in the rejected claims.

As Ohsaka is directed towards the measurement of temperature and not towards measurement of a certain time limit associated with a current that flows in a circuit, Applicants respectfully request the withdrawal of the anticipation rejections set forth in the Office Action of January 7, 2004 based on Ohsaka.

Claim Rejections – 35 U.S.C. § 103

Claims 7 and 16 are rejected as obvious in view of Jonokuchi (US 6,060,859) and Ohsaka.

Applicants have carefully considered the obviousness rejections and respectfully submit that a *prima facie* case of obviousness does not exist on the basis of the following discussion.

As commented above, Applicants submit that Ohsaka does not describe the

monitoring of time passed between the beginning of the conduction time to conclude if a surge results from an overload or a short circuit. The specific focus that is taught by Ohsaka is the measurement of temperature to avoid an overload of circuit. Applicants further note that Jonokuchi, which is relied on as the base reference in the obviousness rejection, solely discloses a system that compares the current that flows through a circuit with a certain predetermined current level and then acts at the PWM to reduce the voltage applied to the circuit. This solution does not provide a suitable solution to conclude if a surge current results from an overload or from a short-circuit, nor would it be obvious to result with the recited solution by combining the teachings of Jonokuchi with Ohsaka, since the latter reference does not disclose the measurement of time as mentioned in the Office Action.

Considering the advantages of providing a fast determination of a short circuit situation to avoid damage to the motor/system facilitated by the rejected subject matter of claims 7 and 16, the limitations of the temperature based Ohsaka system and the deficiencies in the Jonokuchi system described above, it is respectfully submitted that the combination of Jonokuchi and Ohsaka fails to disclose or suggest the subject matter of rejected claims 7 and 16.

CONCLUSION


Applicants respectfully submit that this response obviates the rejections detailed in the Office Action and that this application should be allowed.

If any additional fees are due in connection with the filing of this response, please charge the fees to Deposit Account No. 02-4300. Any overpayment can be credited to Deposit Account No. 02-4300.

Respectfully submitted,

Date: June 7, 2004

Signature:



Dennis C. Rodgers, Reg. No. 32,936
Smith, Gambrell & Russell, L.L.P.
1850 M Street, N.W., Suite 800
Washington, D.C. 20036
Telephone: (202) 263-4300